

REMARKS

The drawings stand objected to because they failed to include the reference signs 11, 15, 31 and 51. In response, Applicants have attached hereto a proposed drawing correction that include those missing numbers shown in red. In addition, a set of replacement drawing sheets having the corrections incorporated therein is also included. Applicants respectfully request that the outstanding objection to the drawings be withdrawn, and that the substitute drawing sheets be entered.

The specification stands objected to because claims 5, 12 and 21 fail to include a period at the end of the claim sentence. Applicants have cancelled these claims rendering the objection moot.

Claims 8-14 stand rejected under 35 USC §112 for problems relating to the missing numeral 51 from the drawings as originally filed. In response, Applicants have included that numeral in the drawing correction which should avoid confusion over where Applicants' claimed cross flow passages are located adjacent the arrows in Figure 4. Therefore, Applicants respectfully request that the outstanding rejection of claims 8-14 under §112 be withdrawn.

Claims 15 and 18 stand rejected under 35 USC §102(b) over Mills. Applicants respectfully disagree since the claims can not be read both consistent with Applicants' specification and onto anything fairly taught by Mills. Nevertheless, Applicants have amended claim 15 in a way that can make certain that it can not be misread onto anything fairly taught by Mills. In particular, the claim now specifically makes clear that the heating step includes a step of conducting electricity through an electrically conductive filter medium. There should be no dispute that Mills fails to show any such concept. Therefore, Applicants respectfully request that the outstanding rejections against claim 15 be withdrawn.

With regard to claim 18, Applicants respectfully assert that the limitation of the upstream volume and the downstream volume having about equal flow areas is not met by the Mills reference. When Applicants' claims are fully read, the claims make it clear that the housing containing the particle traps is divided into an upstream volume and a downstream volume by the particle traps. Since the conduits upstream and downstream from the Mills particle trap do not contain particle traps, Applicants' housing limitation can not be read onto these supposedly equal flow area passageways. In other words, the claim can only be read onto a housing that includes the particle traps positioned therein, and thus Mills fails to show any housing within which

particle traps are positioned and that is divided into an upstream volume and a down stream volume with about equal flow areas. In addition, Applicants have amended claim 18 to make it clear that the electrically conductive filter elements are electrically connected to separately energizable electric circuits. Again, Mills shows no such feature. Therefore, Applicants respectfully request that the outstanding §102 rejection based upon Mills be withdrawn.

Claims 1, 2, 8, 9, 15, 16, 18 and 19 stand rejected under 35 USC §102(b) over Gillingham et al. While it is true that Gillingham shares some features in common with the claimed invention, Applicants never intended the claims to be misread onto the tubular filtering strategy of a type typified by Gillingham et al. In order to better prevent Applicants' claims from being misread onto the Gillingham et al. reference, several changes have been made to the claims. For instance, claim 1 specifically requires that each of the particle traps include a box defining a conduit therethrough, within which a filter element is positioned. Claim 2 has been amended to make it clear that the electric terminals each protrude through a side of the box and a wall of the housing such that the electrical terminals are exposed outside of the housing but not inside the housing. There should be no dispute that Gillingham et al. failed to show or suggest any such structure. Claim 8 has been amended to make it clear that the cross flow passages are downstream from the valves but upstream from the particle traps. There should be no dispute that Gillingham et al. fails to show or suggest any such structure. Instead it shows separate leak holes 85 adjacent its valves, and nothing that could be fairly characterized as a cross flow passage as in Applicants' claimed invention. Claim 9 has been amended in a manner similar to claim 2. Claim 15 has been amended to make it clear that the heating step includes the step of conducting electricity through an electrically conductive filter medium. Claim 16 has been amended in a manner similar to claim 8. Therefore, Applicants respectfully request that the outstanding rejections against these claims based on Gillingham et al. be withdrawn.

With regard to claim 18, Applicants again respectfully assert that the limitation of the upstream volume and the downstream volume of the housing containing the particle traps have about equal flow areas is not met by the cited reference. In order for this limitation to read on anything fairly taught by Gillingham et al., the cross sectional flow areas of its three separate tubes in each quadrant would have to be about equal to the remaining area of that quarter circle quadrant. Gillingham et al. is silent regarding this matter, and Figure 2 of Gillingham et al. shows that, even to the eye, this claim limitation can not be met. In order to better insure that

this claim limitation is not misread onto either the inlet section or the outlet section of the particle trap assembly, Applicants have explicitly defined the housing as being a filter sectioned housing that is connected to an inlet section and an outlet section at opposite ends. In addition, claim 18 requires that each of the electrically conductive filter elements be electrically connected to a separately energizable electric circuit. While it is true that Gillingham et al. recognizes the usage of a wire mesh to trap particles, it fails to recognize Applicants' claimed concept of electrically connecting an electrically conductive filter element to electrical circuits so that the same medium that traps the particles is also the means by which those trapped particles are heated and burnt away to regenerate the particle traps. Therefore, Applicants respectfully request that the outstanding rejection against claim 18 based upon Gillingham et al. be withdrawn.

Claim 19 should be allowable over and above the reasons set forth with regard to claim 18 since it specifically requires that each of the particle traps include a box defining a conduit therethrough, and a pair of electric terminals that protrude through a side of the box and a wall of the filter section housing. There should be no dispute that Gillingham et al. fails to show or suggest any such features. Therefore, Applicants respectfully request that the outstanding §102 rejection based upon Gillingham et al. against claim 19 be withdrawn over and above the reasons set forth with regard to claim 18.

Claims 1, 3-6, 8, 10-13, 15-18 and 20-22 stand rejected under 35 USC §102(e) over Peter et al. While Peter et al. does show a particle trap assembly that appears to share some features in common with Applicants' claimed invention, Applicants never intended their claims to be misread onto the tubular structure taught by Peter et al. In order to better prevent Applicants' claims from being misread onto Peter et al., Applicants have amended claim 1 to make it clear that each of the particle traps includes a box defining a conduit therethrough, within which a filter element is positioned. There should be no dispute that the tubular structure taught by Peter et al. is inherently incapable of satisfying this claim limitation. In other words, the box is something distinct from the filter element, and thus the only way to read Applicants' claims onto Peter et al. would be to read Applicants' distinct box and filter element limitations onto the same thing of Peter et al. But such a claim construction would be unfair. Therefore, Applicants respectfully request that the outstanding rejection against claims 1 and 3-6 be withdrawn.

Claim 3 should be allowable over and above claim 1 since it specifically requires the limitations of claim 2, which apparently there is no dispute are absent from Peter et al. In addition, claim 3 requires that each of the subassembly quadrants be detachably attached to two other subassemblies at contacting flanges. It is this feature that allows subsets of Applicants' claimed particle traps to be serviced without completely disassembling the particle trap assemblies of the type shown and typified by Peter et al.

Claim 4 should be allowable since it specifically requires that the filter section housing be divided by the particle traps into upstream and downstream flow areas that are about equal. It is this aspect of Applicants' claimed invention that prevents the exhaust flow from speeding up and slowing down substantially as it travels through the filter section of the housing. Applicants' specification makes it clear that any speeding up and slowing down of the exhaust flow in the filter section housing can introduce a small but measurable pressure drop that reduces overall efficiency. Since Peter et al. is silent on this matter, and its drawings show a structure that, even by sight, would fail to include about equal flow areas on opposite sides of its filter medium, claim 4 should be allowable over and above the reasons set forth with regard to claims 1 and 3.

Claim 6 should also be allowable over and above the reasons set forth with regard to claims 3 and 1 since it specifically requires that the box of each particle trap have a long dimension that deviates from a straight line, and that terminates and in sides positioned adjacent an outer wall of the housing of the filter section housing. There should be no dispute that Peter et al. fails to show or suggest any such structure. Therefore, Applicants respectfully request that the outstanding rejections against claim 6 be withdrawn over and above the reasons set forth with regard to claims 1 and 3.

With regard to claim 8, Applicants have now made it clear that the cross flow passages are located downstream from the valves but upstream from the particle traps. There should be no dispute that Peter et al. fails to show or suggest any such structure. Instead, Peter et al. suggests that its individual valves may not be completely closed in order to provide some oxidant to the particle traps undergoing regeneration. But again, that is not what Applicants have claimed. Therefore, Applicants respectfully request that the rejections against claims 8 and 10-13 be withdrawn.

The rejection against claim 10 should be withdrawn over and above the reasons set forth with regard to claim 8 since it specifically requires that the subassembly quadrants be detachably

attached to two other subassemblies at contacting flanges. Again, this aspect of the claimed invention allows subsets of the particle traps to be serviced without completely dismantling the particle trap assembly, as would be necessary with regard to the Peter et al. structure.

Claim 11 should be allowable over and above the reasons set forth with regard to claims 8 and 10 since it specifically requires that the upstream and downstream flow area volumes on opposite sides of the particle traps in the filter section housing be about equal. Again, in order to support a §102(b) rejection against this claim, Peter et al. would need to have discussed this concept, or at least show in their drawings something with flow areas that might appear to be about equal. But Peter et al. does neither. And therefore, Applicants respectfully request that the outstanding §102 rejections against claim 11 be withdrawn over and above the reasons set forth with regard to its base claims.

Claim 13 should be allowable over and above the reasons set forth with regard to claims 8 and 10 since it specifically requires that each particle trap include a box defining a conduit therethrough and each of the box has a long dimension that deviates from a straight line and terminates in sides positioned adjacent an outer wall of the filter section housing. Again, there should be no dispute that Peter et al. fails to show or suggest any such structure. Therefore, Applicants respectfully request that the outstanding §102 rejection against claim 13 be withdrawn over and above the reasons set forth with regard to base claims 8 and 10.

With regard to claim 15, Applicants have amended this claim to make it clear that the heating step includes a step of conducting electricity through an electrically conductive filter medium. Again there should be no dispute that Peter et al. fails to show or suggest any such concept where the same medium that is used to trap the particles, and is also used to burn those particles away to regenerate the trap. Therefore, Applicants respectfully request that the outstanding §102 rejection against claims 15-17 be withdrawn.

Claim 16 should be allowable over and above claim 15 since it specifically requires that the cross flow passage be located downstream from the valve but upstream from the particle trap. Again, Peter et al. fails to show or suggest any such concept. Therefore Applicants respectfully request that the outstanding rejection against claim 16 be withdrawn over and above the reasons set forth with regard to claim 15.

Claim 17 should be allowable over and above the reasons set forth with regard to claims 15 and 16 since it specifically requires that the particle traps be electrically isolated from one

another. There should be no dispute that Peter et al. fails to show or suggest any such concept, since it teaches an entirely different strategy for regenerating its particle traps using a heater that is separate from the filter medium. Therefore, Applicants respectfully request that the outstanding rejections against claims 17 be withdrawn over and above the reasons set forth with regard to its base claims.

With regard to claim 18, it should never have been rejected since Applicants' claimed upstream and downstream flow volume equality limitations should never have been misread onto anything fairly taught by Peter et al. Again, Peter et al. neither discusses this concept, nor shows any structure upon which with claim limitation could be inherently read. In addition, claim 18 has also been amended to make it clear that each of the electrically conductive filter elements is connected to a separately energizable electric circuit. Again, Peter et al. shows no such structure. Therefore, Applicants respectfully request that the outstanding rejections against claims 18 and dependent claims 20-22 be withdrawn.

Claim 20 should be allowable over and above the reasons set forth with regard to claim 18 since it specifically requires that the subassembly quadrants be detachably attached to two other subassemblies at contacting flanges. Likewise, claim 22 should be allowable over and above base claims 20 and 18 since it specifically requires that each of the particle traps include a box with a long dimension that deviates from a straight line and terminates in sides positioned adjacent an outer wall of the filter section housing. Again, Peter et al. shows a different strategy for shaping its particle traps that is incompatible with the claim limitations of claim 22. Therefore, Applicants respectfully request that the outstanding rejections against claims 20 and 22 be withdrawn over and above the reasons set forth with regard to base claim 18.

Claims 2, 7, 9, 14, 19 and 23 stand rejected under 35 USC §103(a) over Peter et al. in view of Gillingham et al. Applicants respectfully disagree since, even when combined, the cited references do not show all the limitations of Applicants' claims. In addition, claim 2 has been amended to make it clear that the electrical terminals protrude through a side of the particle trap box and a wall of the filter section housing, such that the electrical terminals are exposed outside the filter section housing but no inside. It is unclear how either of the cited references could meet this limitation. Claim 7 should also be allowable over and above the reasons set forth above since it specifically requires that the particle traps be separated and electrically isolated from one another. Again, the cited references fail to show or suggest any such electrical

isolation concept, and therefore, even when combined, they can not meet the requirements of Applicants' claims. Claims 9 and 14 include limitations similar to claims 2 and 7, respectively. In addition, claims 19 and 23 include limitations similar to that described with regard to claims 2 and 7, respectively. Therefore, Applicants respectfully request that all of the §103 rejections be withdrawn over and above the reasons set forth with regard to their respective base claims.

Applicants have cancelled claims 5, 12 and 21, and added three new claims 24-26 that are believed allowable over the art of record. No additional fee is believed needed for these claims due to the cancellation of other claims. However, the Director is authorized to charge any underpayment or credit any overpayment to deposit account number 500226, including a fee necessary for an extension of time.

This application is now believed to be in condition for allowance of claims 1-4, 6-11, 13-20 and 22-26. However, if the Examiner believes that some minor additional clarification would put this application in even better condition for allowance, the Examiner is invited to contact the undersigned attorney at (812) 333-5355 in order to hasten the prosecution of this application.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'MB2A', is written over the printed name.

Michael B. McNeil
Reg. No. 35,949

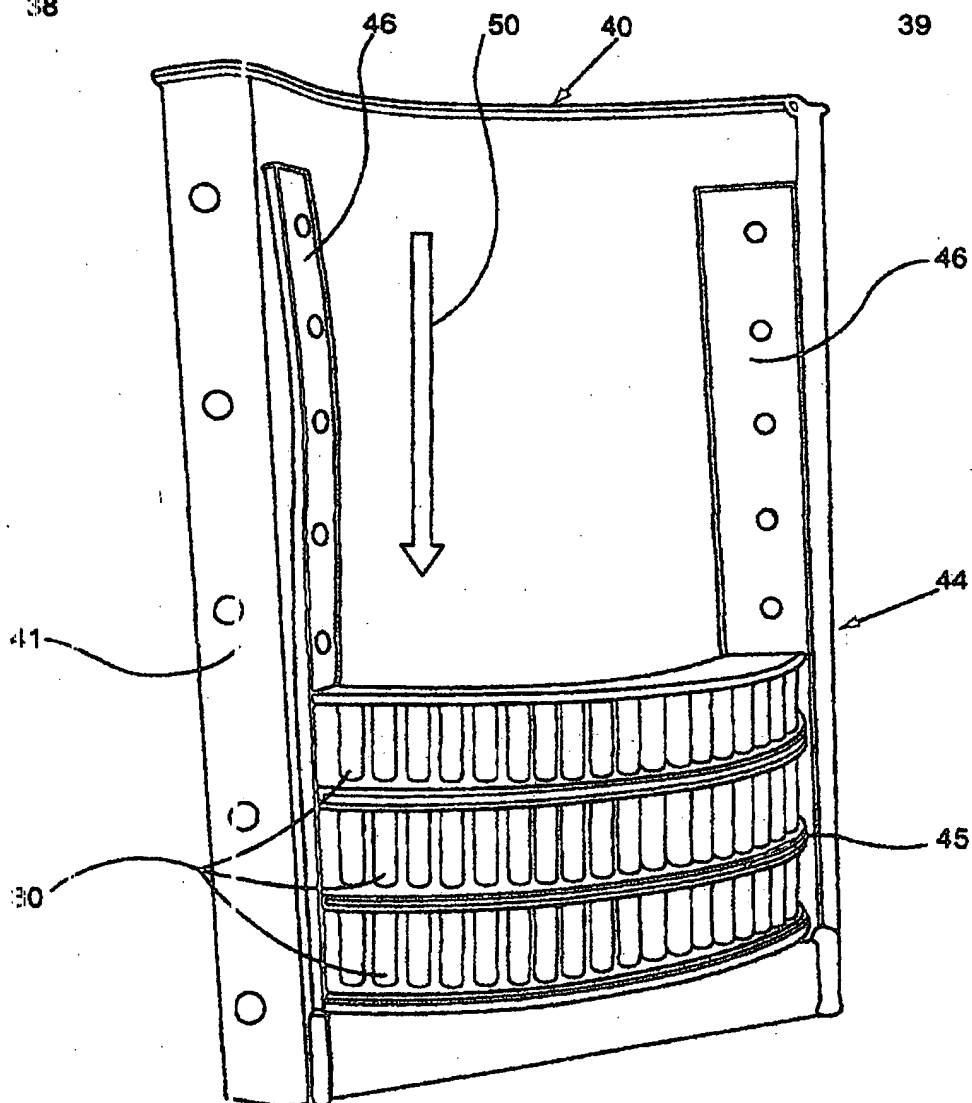
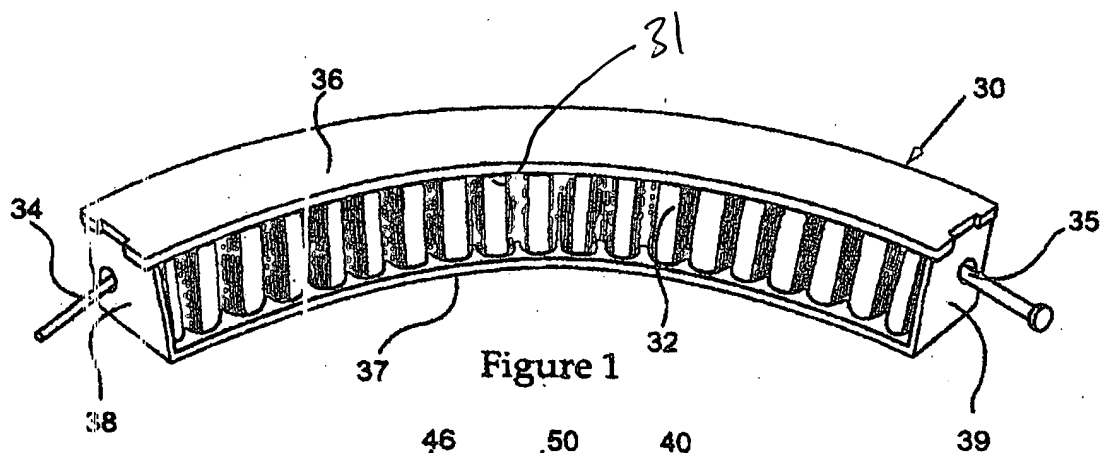
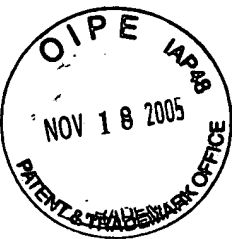


Figure 2

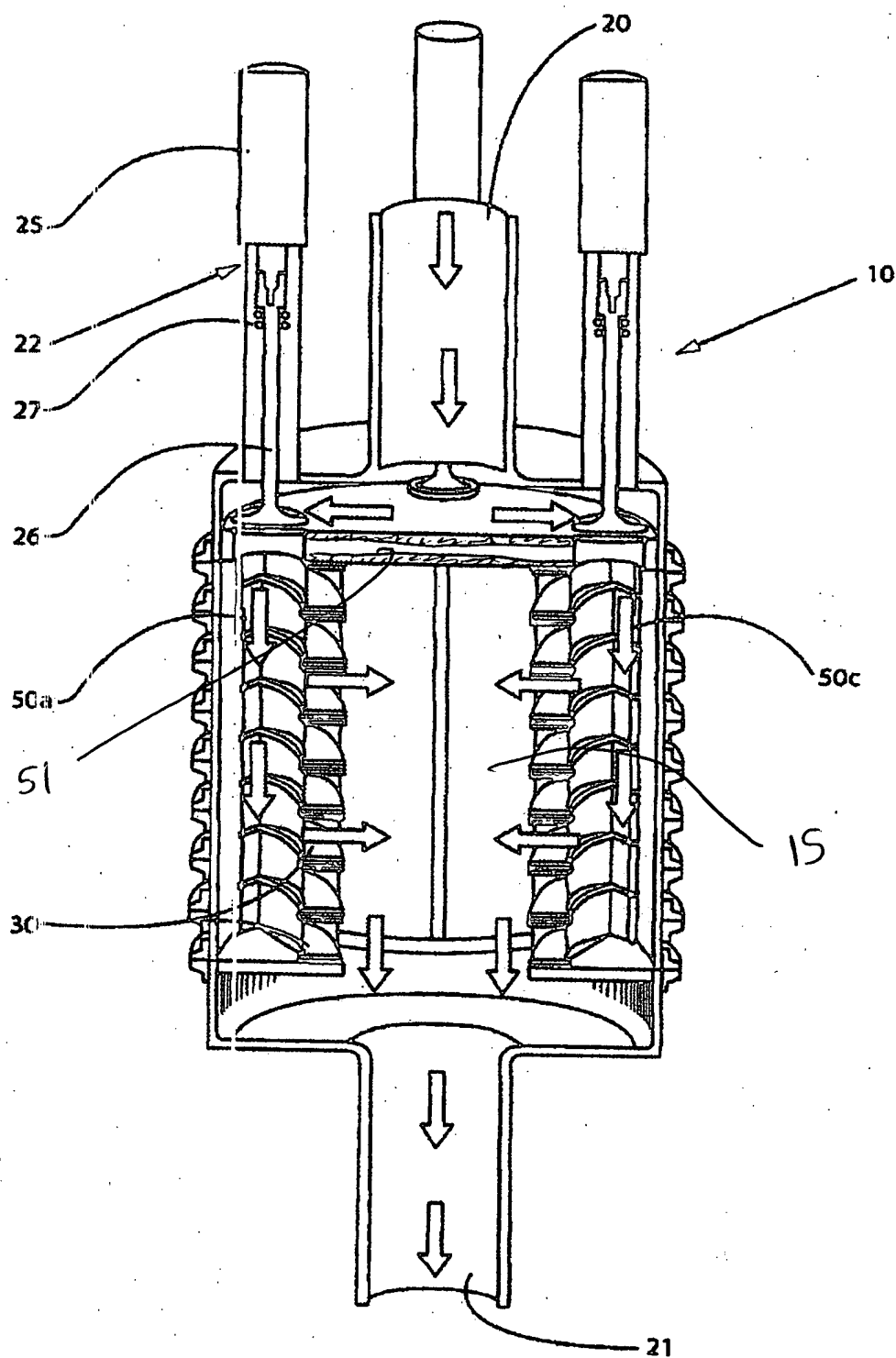


Figure 4

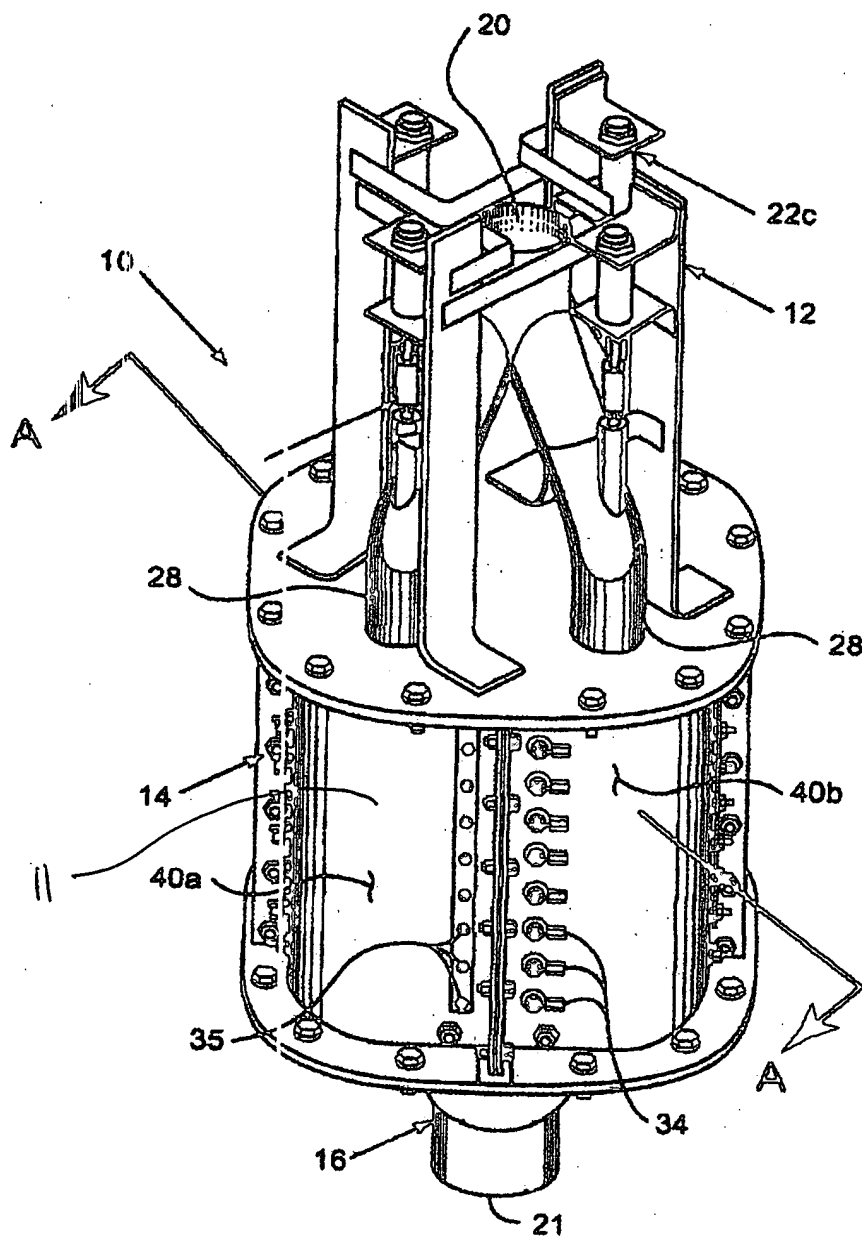


Figure 3